WHAT IS CLAIMED IS:

1. A thin film laminated with a single particle layer comprising:

a support having a surface where a hydrophilic graft polymer chain is present; and

a single particle layer composed of fine particles adhered to the support in a single particle state.

2. A thin film laminated with a single particle layer of claim 1, wherein one terminal of the hydrophilic graft polymer chain is directly bonded with the surface of the support and a graft chain part showing hydrophilicity is substantially free without being cross-linked.

3. A thin film laminated with a single particle layer of claim 2 further comprising an intermediate layer formed on the surface of the support, wherein the one terminal of the hydrophilic graft polymer chain is bonded with the intermediate layer.

4. A thin film laminated with a single particle layer of claim 1, wherein a terminal of the hydrophilic graft polymer chain is bonded with the surface of the support via a polymer cross-linked film structure, and a graft chain part showing hydrophilicity is substantially free without being cross-

linked.

5. A thin film laminated with a single particle layer of claim 4 further comprising an intermediate layer formed on the surface of the support, wherein the one terminal of the hydrophilic graft polymer chain is bonded with the intermediate layer via the polymer cross-linked film structure.

6. A thin film laminated with a single particle layer of claim 1, wherein a molecular weight of the hydrophilic graft polymer chain is in a range of 500 to 5,000,000.

7. A thin film laminated with a single particle layer of claim 1, wherein a thickness of a layer forming the surface where the hydrophilic graft polymer chain is present is in a range of 0.001 to 10 μm.

8. A thin film laminated with a single particle layer of claim 1, wherein a diameter of the fine particles is in a range of 0.1 nm to 20 μm.

9. A method for producing a thin film laminated with a single particle layer, comprising the steps of:

(a) providing a fine particle-containing liquid onto a support having a surface where a hydrophilic graft polymer chain

is present; and

(b) allowing fine particles to two-dimensionally aggregate while controlling development thickness of the fine particle-containing liquid, thereby forming a single particle layer.

10. A method for producing a thin film laminated with a single particle layer of claim 9, wherein the step (a) of providing a fine particle-containing liquid onto the support includes a step of providing the fine particle-containing liquid onto the support in such a manner that an amount of wet coating during the provision of the liquidg becomes 0.1 to 100 g/cm^2.

11. A method for producing a thin film laminated with a single particle layer of claim 9, wherein the step (b) of forming a single particle layer includes a step of drying the liquid film formed in the step (a) at a drying temperature of 180°C or below and a drying duration of 10 seconds to 10 hours.

12. A method for producing a thin film laminated with a single particle layer, comprising the steps of:

(a) forming a hydrophilic layer having a hydrophilic graft polymer chain on a surface thereof on a base member;

(b) providing a fine particle-containing liquid on the surface of the hydrophilic layer; and

(c) allowing fine particles to two-dimensionally aggregate while controlling development thickness of the fine particle-containing liquid, thereby forming a single particle layer.

13. A method for producing a thin film laminated with a single particle layer of claim 12, wherein the step (a) of forming a hydrophilic layer includes one of a step of adhering the base member and a graft polymer by chemical bonding and a step of forming a graft polymer on the base member by polymerizing a compound having a double bond capable of being polymerized by using the base member as a starting point.

14. A method for producing a thin film laminated with a single particle layer of claim 12, wherein the step (a) of forming a hydrophilic layer includes a step of forming a graft polymer, and cross-linking the graft polymer on the base member and also bonding the graft polymer with the base member.

15. A thin film laminated with a single particle pattern layer comprising:

a support having a surface where a hydrophilic graft polymer chain is present in a patterned manner; and

a single particle layer composed of fine particles adhered in a single particle state in a region of the support

where the hydrophilic graft polymer chain is present.

16. A method for producing a thin film laminated with a single particle pattern layer, comprising the steps of:

(a) providing a fine particle-containing liquid onto a support having a surface where a hydrophilic graft polymer chain of patterned configuration is present; and

(b) allowing fine particles to two-dimensionally aggregate while controlling development thickness of the fine particle-containing liquid, thereby forming a single particle layer in a region where the hydrophilic graft polymer chain is present.

17. An optical film comprising:

a light transmissive support having a surface where a hydrophilic graft polymer chain is present;

a single particle layer which is composed of light transmissive fine particles and is provided on the support; and

a light transmissive resin layer provided on the single particle layer.

18. An optical film of claim 17, wherein the hydrophilic graft polymer chain is bonded with the support via an intermediate layer provided on the surface of the support.

19. An optical film of claim 18, wherein the intermediate layer contains a polymerizable compound which has excellent adhesion with the support and to which a hydrophilic graft polymer chain can be added by energy application, and a polymerization initiator which exhibits the ability to initiate polymerization of the polymerizable compound.

20. A method for producing an optical film, comprising the steps of:

(a) providing a liquid containing light transmissive fine particles onto a light transmissive support having a surface where a hydrophilic graft polymer chain is present;

(b) allowing the light transmissive fine particles to two-dimensionally aggregate while controlling development thickness of the liquid containing light transmissive fine particles, thereby forming a single particle layer; and

(c) providing a light transmissive resin layer on the single particle layer.

21. A method for producing an optical film of claim 20, wherein the step (a) of providing a liquid containing light transmissive fine particles onto a light transmissive support includes a step of providing the liquid containing light transmissive fine particles onto the light transmissive support in such a manner that an amount of wet coating during the provision of the liquid

becomes 0.1 to 100 g/cm^2.

22. A method for producing an optical film of claim 20, wherein the step (b) of forming a single particle layer includes a step of drying the liquid film formed in the step (a) at a drying temperature of 180°C or below and a drying duration of 10 seconds to 10 hours.